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(19) (CA) APPLICATION FOR CANADIAN PATENT (12)

(54) Pliable Packing for Non-Rectangular Flat Articles

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ABSTRACT

For the production of a foil soft package for several non-rectangular, flexible flat articles, more especially for elongated slip-on pads which are rounded at the ends, the flat articles are folded to rectangular form and enclosed by a parallelipipedic packaging sleeve bearing relatively tightly on the stack of the flat articles folded one above the other, the packaging sleeve being constructed, over the full width of one lateral surface and at least a part of its depth, for being opened and for the opening to be able to be re-closed. The folding is more especially effected in such manner that the end regions of the flat articles are folded opposite to one another and lie side by side on the main region.

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Pliable packing for non-rectangular flat articles

Description

The invention relates to a pliable packing for non-rectangular, flexible flat articles, more especially elongated slip-on pads which are rounded at the ends and which are covered in the folded state with foil material.

The slip-on pads which are more especially to be considered here are flat, multi-layer articles of absorbent tissue material of elongated form. They are considerably rounded - almost to semi-circular form - at their short ends, for the purpose of being adapted to the body and the clothing of the wearer. For marketing purposes, stacks of these pads are generally packed and sold in cartons.

Because of the bulkiness of such supply packages, small packages have also been developed which contain single slip-on pads. In this case, the length dimension of the pad is reduced by transverse folds to about 1/3rd of its length and the three-layer pad is arranged in a bag-like foil package.

However, there is also a demand for a handlable and marketable unit of several slip-on pads, because the individual packaging is cost intensive and the carrying of several individually packed slip-on pads is inconvenient. Moreover, these latter also occupy a disproportionately large amount of space. Finally, with the known transverse folding, the creases are disposed at such positions of the slip-on pads that they become inconveniently apparent when they are being worn.

The packaging of a stack of slip-on pads in the manner of folded paper pocket handkerchiefs, which seems to be tenable, in view of the similarities in shape and consistency, is actually not possible, because the soft packaging in general use at the present time for packs of handkerchiefs cannot be closed around the non-rectangular slip-on pads - at least not in a reliable manner. Moreover, it is scarcely able to satisfy the further desire of so developing the soft packaging

carton for a small pack of slip-on pads that, after the first time a pad has been extracted, the carton can be closed again, and that this procedure can be repeated several times until all the pads have been used.

The invention provides a way out of this difficulty. It consists in that a plurality of flat articles folded to rectangular form are stacked one above the other and is enclosed by a parallelepipedic packaging sleeve fitting relatively tightly on the stack, and that the packaging sleeve is constructed for being opened over the full width of one lateral surface of the parallelepiped and at least a part of its depth and for being closed again.

Here the invention makes use of the folding of slip-on pads, which is known per se, in a novel manner: The rectangular form which is produced with the folding of the flat articles - and thus also of slip-on pads - permits the formation of a parallelepipedic stack and the enclosure thereof in a soft package or carton which fits tightly on all sides and can be resealed. However, it has to be observed that an extraction of the folded articles, because of the stiffening which occurs in the region of the sharp fold, is only possible when the side wall providing access is opened over the full width (of the article and thus of the package), in order to ensure extraction in a problem-free manner and without damaging the package and/or the article.

The folding of articles such as slip-on pads can be so effected in the known manner that the oppositely folded end regions lie one upon the other. With equal number, a flatter but naturally longer package is produced if the folded end regions lie adjacent one another. Moreover, in this case, the transverse folds are displaced to positions longitudinally of the pads, where they are troublesome during wear.

In the latter case, it could also be possible with advantage to package such slip-on items (or comparable articles) which are thickened in the middle region: In this case, only such small end regions are folded over as to achieve

the rectangular shape and the folded-over sections lie adjacent the thickened middle section and a substantially uniform thickness is produced, which in this way also leads to the parallelepipedic form of the packed stack.

The invention is hereinafter more fully explained by reference to constructional examples shown in the drawings, wherein:

- Fig. 1 is a slip-on pad in the unfolded state;
- Fig. 2 is a slip-on pad in the folded state;
- Fig. 3 is a stack of slip-on pads which are folded together;
- Fig. 4 is a perspective view of a soft package or carton for holding the stack of folded slip-on pads shown in Fig 3,
- Fig. 5 is a laid-out blank of a synthetic plastics foil, for the production of the soft package which is shown in Fig. 4; and
- Fig. 6 is a laid-out blank of a synthetic plastic foil for the production of another constructional form of a soft package.

Shown in perspective in Fig. 1 is a slip-on pad 2, which has a main region 4 and two end regions 8, 9 opposite one another and connected with fold lines 6, 7 to the main region 4. While the main region 4 has a substantially rectangular form, the end regions 8, 9 which adjoin the latter are strongly rounded on their free side edges 10, 11 for fitting reasons. With the example which is shown in Fig. 1, the two end regions 8, 9 are made substantially semi-circular.

As shown in Fig. 1, the complete slip-on pad 2 has a flat, elongated form. It consists of a flat multi-layer blank of absorbent tissue material. The thickness of the slip-on pad 2 which is shown in Fig. 1 is the same over its entire length, i.e. both in the main region 4 and in the end regions 8, 9. However, it is also possible to make the main region 4 thicker and thus more absorbent than the two end regions 8, 9.

For being arranged in a soft package or carton which is

still to be described, the slip-on pad 2 is folded according to Fig. 2. For this purpose, the two end regions 8, 9 are folded back on to the main regions 4 in opposite directions through 180° about the two crease lines 6, 7, which extend substantially parallel to one another and at right-angles to the length dimension of the slip-on pad. In the folded state, which is shown in Fig. 2, the two end regions 8, 9 lie adjacent one another on the main region 4, the free side edges 10, 11 of the end regions 8, 9 being disposed facing and adjacent one another. Such a folding is more especially advantageous when the middle region 4 is thickened as compared with the end regions 8, 9 (not shown in the Figures). Since in this case the folded end regions lie adjoining the thickened middle region, there is then produced a substantially uniform thickness of the folded slip-on pad. In contrast thereto, it is also possible so to fold the slip-on pad that the end regions folded in opposite directions lie one above the other. This folding has the advantage that the slip-on pad, in the folded state, has only a particularly short length. In any case, however, the slip-on pad 2 which is rounded at the ends has to be so folded that it is given a rectangular form in the folded state, as shown by way of example in Fig. 2.

The rectangular form, which is provided by the folding of the slip-on pads 2 in the previously described manner, allows the formation of a parallelepipedic stack 12 of several folded slip-on pads arranged one above the other, as shown in Fig. 3.

The slip-on pads 2 which are folded to rectangular form in Fig. 2 and are stacked one above the other according to Fig. 3 are enclosed, in the packed condition, by a parallelepipedic soft package or carton 20 fitting relatively tightly on the stack 12, such carton being shown in an outside view in Fig. 4. The stack 12 of the slip-on pads contained in the soft package 20 is only indicated in Fig. 4.

The soft package 20 consists of a packing foil, which is formed from a one-piece, rectangular blank 22 of a synthetic plastics foil which can be heat-sealed or stuck with adhesive,

for example, polyethylene. The blank 22 is shown in Fig. 5 in plan view, before being folded and stuck to form the soft package. The blank 22 is first of all laid in tube-like form around the stack 12 of slip-on pads. Flaps 23, 24 and 25 which project at the ends are then folded over against the stack 12. The separate zones of the blank 22, which are marked by corresponding lines in Fig. 5, thereby form a front wall 26, a rear wall 27, narrower side walls 28 and 29 and also end walls 30 and 31.

The end walls 30, 31 are formed by the suitably folded end flaps 23, 24 and 25, of which the (outer) end flap 23 associated with the front wall 26, in the same manner as the corresponding end flap 24 on the rear wall 27, are given a trapezoidal form by the folding operation. The end flaps 23, 24 and 25 are connected to one another by heat welding or possibly also by gumming.

Side strips 32 and 33 of the blank 22 form, in the region of the side wall 28, an overlap not shown here in detail. The side strips 32, 33 are likewise connected to one another by heat welding or possibly by adhesive.

The front wall 26 is limited by longitudinal edges 34 and 35 relatively to the side walls 28 and 29 and by a transverse edge 36 relatively to the end wall 30.

With the constructional example which is shown here, the rectangular front wall 36 in the region facing the end wall 30 is provided with a tearing flap 37 extending over the full width of the front wall 26. This is therefore as wide as the front wall 26. The tearing flap 37 is limited by tearing lines which, due to a material weakening of the synthetic plastic foil, facilitate the tearing operation. With the constructional example as shown, the tearing flap 37 is limited by perforation lines 38, 39, which extend in the tearing direction, i.e. in the direction towards the end wall 30.

In the constructional example which is shown in Figs. 4 and 5, the tearing flap 37 has a substantially trapezoidal shape, since it is formed by two lines of perforations 38, 39

extending respectively towards the corners 40, 41 of the front wall 26. A flap end 42 disposed approximately centrally of the front wall 26 is here marked by an uninterrupted separation cut 43 connecting the facing ends of the perforation lines 38, 39 to one another. This makes easier the critical starting of the tearing operation by gripping and pulling up the flap end 42.

In order to obtain an opening through the tearing flap 37 for facilitating the extraction of the contents of the package, the perforation lines 38, 39 are continued in the region of the front wall 30 by connected perforations 44, 45. With the constructional example which is shown in Fig. 5, the connecting perforations 44, 45 rectilinearly follow the perforation lines 38, 39, as a result of which they coincide with the lateral folding edges 46, 47 (see Fig. 4) of the outer end flap 23.

Fig. 6 shows another constructional example of a blank 22', which only differs from the blank which is shown in Fig. 5 by the fact that the connecting perforations 44', 45' extend along the transverse edges 48, 49 which connect the side walls 28, 29 with the end wall 30.

It is important in each case that the connecting perforations adjoining the perforation lines 38, 39 are so disposed that, with the opening of the tearing flap 37, also the adjacent section of the end wall 30 is opened over the full width, so that the slip-on pads are able to be easily removed.

It is also conceivable that the connecting perforations 44, 45 and respectively 44', 45' may be formed as penetrating separation cuts.

As already mentioned, the perforation lines 38, 39, and including the separation cut 43, are so arranged that the tearing flap 37 is given a trapezoidal form. However, also other geometrical forms are conceivable, such as, for example, curved forms with concave sections which are directed outwardly and/or inwardly. It is only in connection with the formation of the tearing flap 37 that care is taken that it is formed over the full width of a square lateral surface, such as, for

example, as far as the longitudinal edges 34, 35 of the front wall 26 with the soft package 30 which is shown in Fig. 4 and over at least a part of the transverse wall adjoining it, for example, the end wall 30.

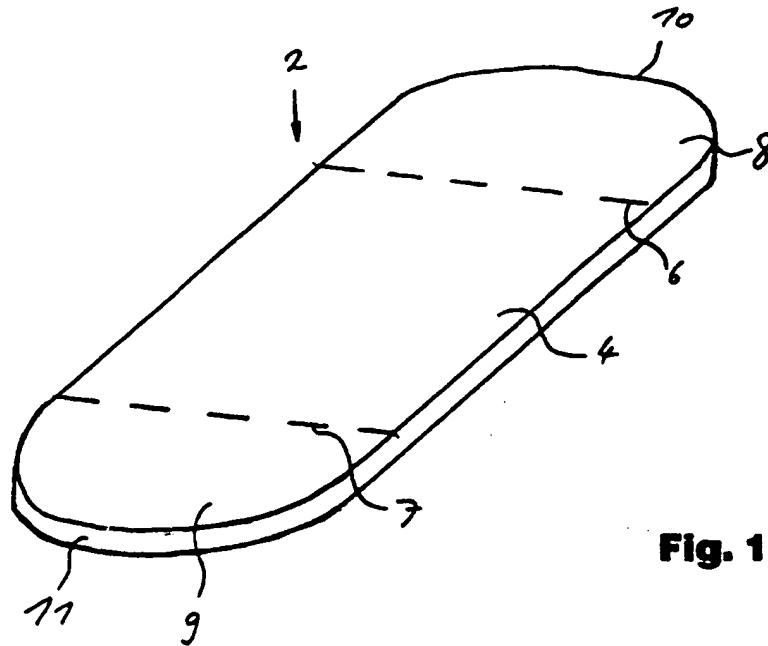
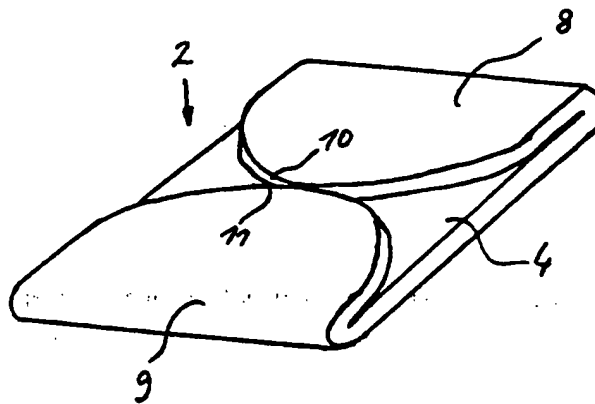
So that the tearing flap 37 can be closed again after being opened up, it has a closure member in the form of an adhesive strip 50, as shown in Fig. 4. This adhesive strip 50 is connected with an attached section 51 by being stuck to the tearing flap 37. The adjoining tear-off section 52 is formed with a considerably smaller adhesion surface and is stuck by adhesive in a releasable manner on the subjacent part of the front wall 26. A non-adhering gripping flap 53 formed on the end of the adhesive strip 50 enables the latter to be gripped and pulled for opening purposes.

When the soft package or carton 20 is opened for the first time, first of all the tear-off section 52 is detached from the front wall 26. With further pulling action of the adhesive strip 50, the tearing flap 37 is detached from the front wall 26 along the perforation lines 38, 39, since the adhesive strip 50, due to suitable adhesion, remains connected to the tear-off flap 37. In addition, also that section of the front wall 30 still adjoining the tearing flap 37 is loosened along the perforations 44, 45 (see Fig. 5) or 44', 45' (see Fig. 6).

By this tearing action, an opening defined by the perforation lines 38, 39 and connecting perforations 44, 45 or 44', 45' is exposed, this making possible the extraction of the packed slip-on pads. After extracting a pad, the soft package 20 can be closed again, namely, with the aid of the adhesive strip 50. It is thus possible to carry out a repeated opening and closing operation.

CLAIMS:

1. Soft package or carton of non-rectangular, flexible flat articles, more especially elongated slip-on pads (2), which are rounded at the ends and which are covered in the folded state with foil material (22), characterised in that a plurality of flat articles (2) folded into rectangular form are stacked one above the other and are enclosed by a parallelepipedic packaging sleeve (20) bearing relatively tightly on the stack (12) and that the packaging sleeve (20) is constructed for being opened over the full width of a parallelepipedic side surface (e.g. 26) and at least a part of its depth (e.g. 30) and also for being closed again.
2. Soft package according to claim 1, characterised in that the flat articles (2) are folded in opposite directions along two parallel fold lines (6, 7).
3. Soft package according to claim 2, characterised in that the end regions (8,9) of the flat articles (2) are arranged in juxtaposition over their main region (4).
4. Soft package according to claim 3, characterised in that only such small end regions (8,9) are folded as are necessary for obtaining the rectangular form.
5. Soft package according to claim 2, characterised in that the end regions (8,9) are arranged one above the other on the main region (4).

**Fig. 1****Fig. 2**

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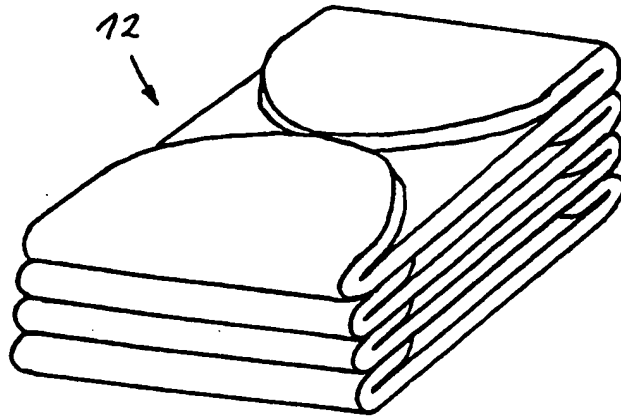


Fig. 3

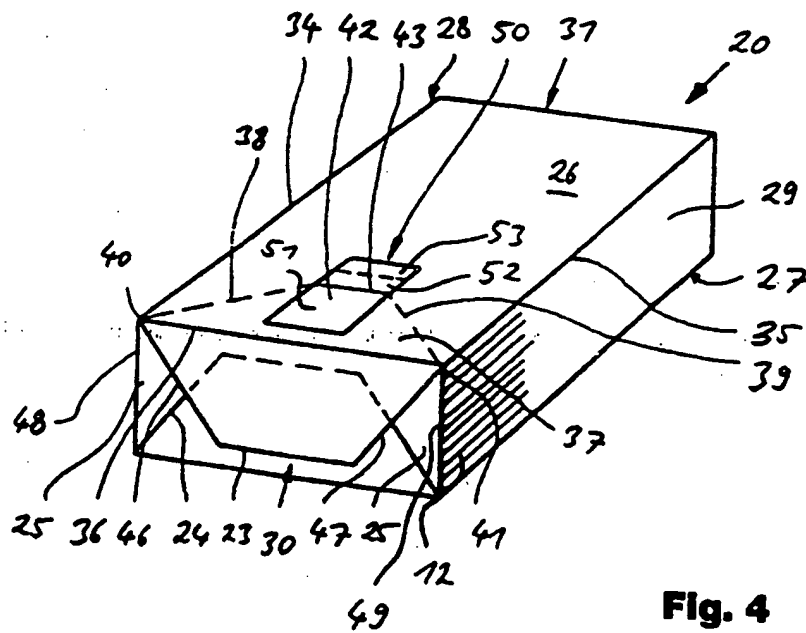
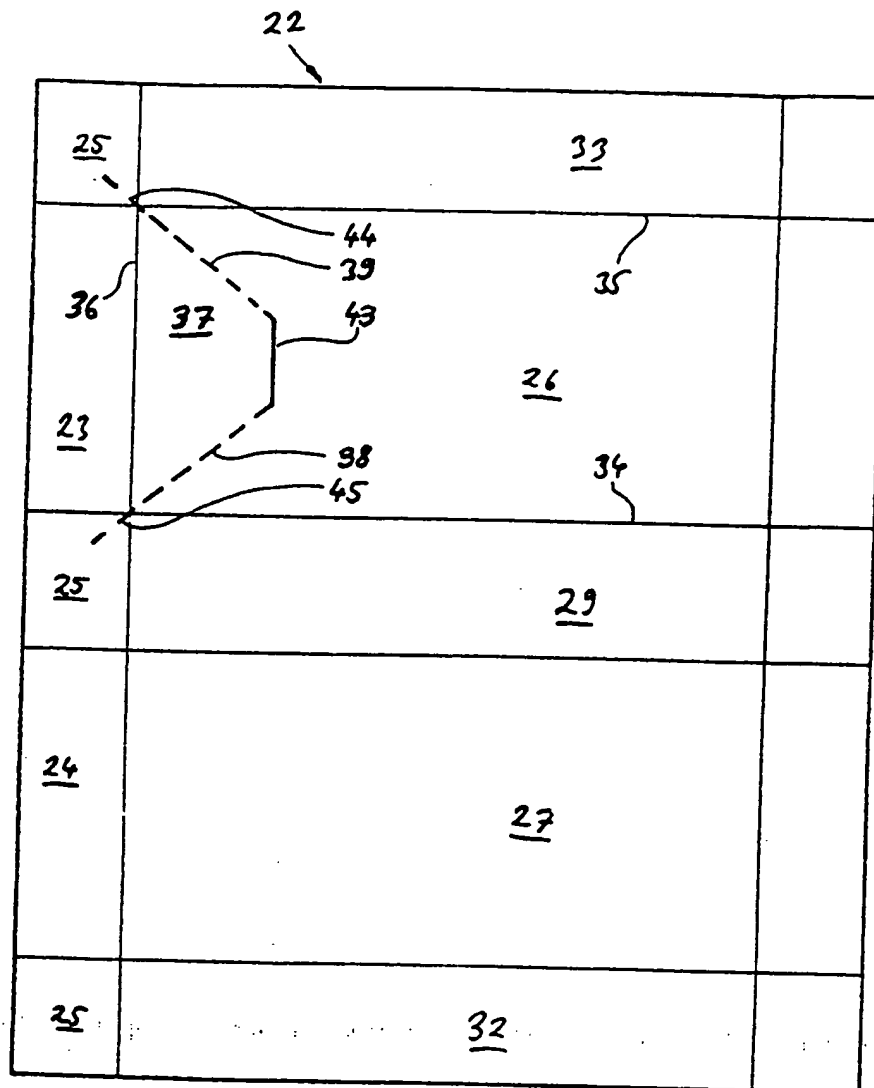


Fig. 4

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**Fig. 5**

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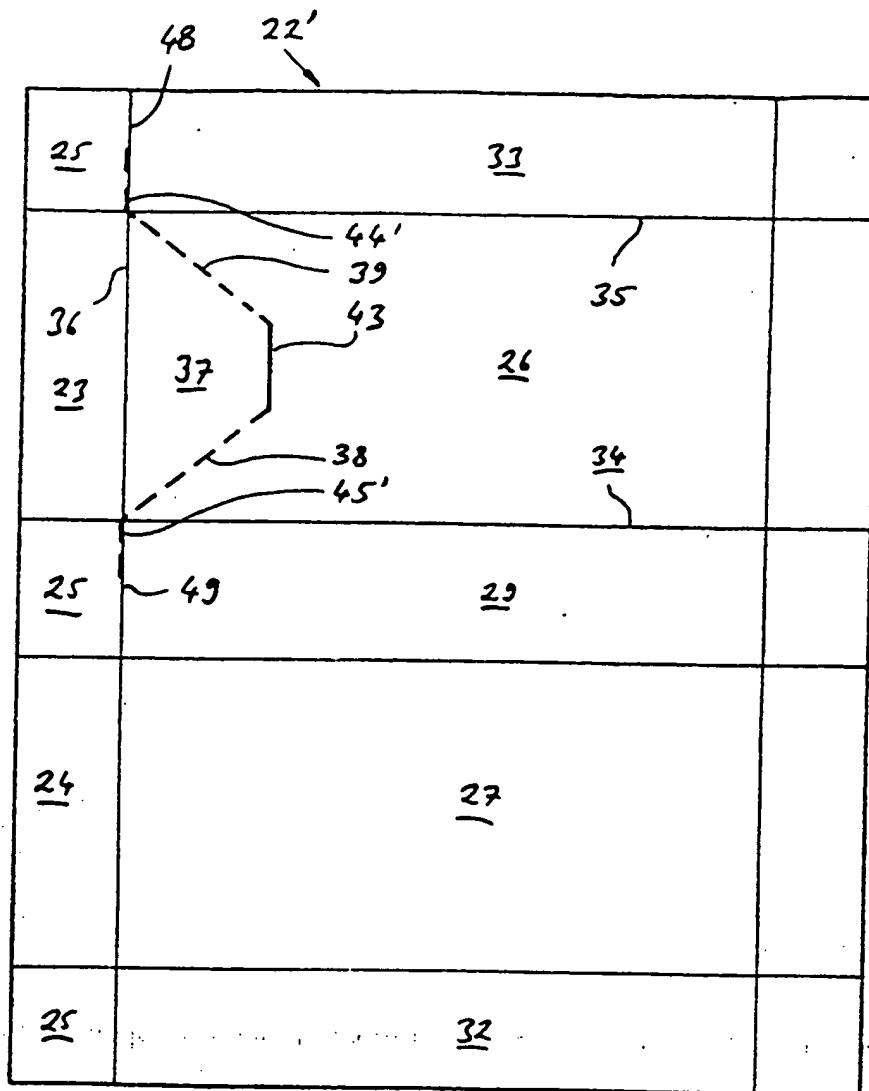


Fig. 6

*Kirby, Eades, Gale
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